Chapter 11: Access, Traffic and Transport

Contents

11. Access, Traffic and Transport

11.1 Introduction

11.1.1 This chapter presents the findings of the assessment of the likely significant effects of the Proposed Development with respect to Access, Traffic and Transport. The specific objectives of the chapter are to:

- Describe the existing access network and transport baseline;
- Describe the assessment methodology and significance criteria used in completing the assessment;
- Assess the likely significant effects, including direct, indirect and any potential cumulative effects;
- Describe the mitigation measures proposed to address likely significant effects (if required); and
- Assess the residual effects remaining following the implementation of mitigation (if required).

11.1.2 This chapter is supported by the following figures and appendices which are referenced throughout the text:

- **EIA Report Volume 3a: Figures:**
  - **Figure 11.1: Study Area**;
  - **Figure 11.2: Traffic Count Locations**;
  - **Figure 11.3: Personal Injury Accident Plan**; and
  - **Figure 11.4: Abnormal Indivisible Load Routes.**
- **EIA Report Volume 4: Technical Appendices**:
  - **Technical Appendix 11.1: Transport Assessment**.

11.1.3 This chapter was prepared by Pell Frischmann. Further details are provided in **Technical Appendix 1.1: Statement of Expertise**.

11.2 Assessment Methodology

Legislation, Policy and Guidance

Legislation

11.2.1 The assessment has been undertaken in accordance with the Town and Country Planning (Scotland) Act 1997. There is, however, no legislation which is specific to transport assessments, that is required to be considered as part of this assessment.

Policy and Guidance

11.2.2 This assessment is carried out in accordance with the principles contained within the following documents:

- Institute of Environmental Management and Assessment (IEMA) 'Guidelines for Environmental Impact Assessment' (2005)[1];
- Institute of Environmental Assessment, Guidelines for the Environmental Assessment of Road Traffic (1993) [2];
- Environmental Assessment of Traffic and Movement (IEMA), (2023)[3];
- LA104, Environmental assessment and monitoring, the Design Manual for Roads and Bridges (DMRB) (2020) [4];
- National Planning Framework 4 (NPF4) (2023)[5];

[1] The Institute of Environmental Management and Assessment (2005) Guidelines for Environmental Impact Assessment
[2] The Institute of Environmental Management and Assessment. (1993) Guidelines for the Environmental Assessment of Road Traffic
[3] The Institute of Environmental Management and Assessment (2023) Environmental Assessment of Traffic and Movement
[4] Highways England, Transport Scotland, Welsh Government & Department for Infrastructure (2020), LA104, Environmental assessment and monitoring, the Design Manual for Roads and Bridges (DMRB)
[5] Scottish Government. (2014) National Planning Framework 4: Available at: https://www.transformingplanning.scot/national-planning-framework/

- Planning Advice Note (PAN) 75 (1995)[6];
- Table 2.2 of Volume 11, Section 2, Part 5 of the Design Manual for Roads and Bridges (DMRB) (2008)[7];
- Design Manual for Roads and Bridges, Volume 15, Part 5 "The NESA Manual" (2013)[8];
- Transport Assessment Guidance (2012)[9];
- Onshore Wind Turbines, Online Renewables Planning Advice (May 2014)[10];
- Scottish Government, Onshore Wind Policy Statement (December 2022)[11];
- Dumfries and Galloway Council Local Development Plan - The Local Development Plan 2 (LDP2) (October 2019)[12]; and
- Dumfries and Galloway Council Local Development Plan (LDP2), Supplementary Guidance: Wind Energy Development (February 2020)[13].

Consultation

11.2.3 No formal EIA Scoping Opinion has been received in relation to the Scoping Report submitted in August 2023. The assessment has therefore been undertaken on the basis of the submitted information at this time and is considered best practice in the absence of a formal scoping opinion.

Study Area

11.2.4 The study area has been based on those roads that are expected to experience increased traffic flows associated with the construction of the Proposed Development. The geographic scope was determined through a review of the other developments in the area, Ordnance Survey (OS) plans, an assessment of the potential origin locations of construction staff and supply locations for construction materials, and information from the Consented Larbrax Wind Farm, Environmental Statement (2015).

11.2.5 Access for construction materials will be from the east, from the A77(T) and A75(T) corridors. Where feasible, local materials will be sourced which will avoid traffic impacting on local communities as far as practicable.

11.2.6 The likely Port of Entry (POE) used for the discharging of wind turbine components will be Glasgow King George V (KGV) Docks. Abnormal Indivisible Loads (AILs) will route to the Site via the M8, M74, A6/M6, A75(T), A77 and B738 through to the Site access junction. Full details of the AIL route are provided in **Annex B** of **Technical Appendix 11.1**.

11.2.7 Based on the above, the study area for the assessment has therefore been assumed to be:

- the A77(T) between Cairnryan and Portpatrick;
- the A75(T) between Stranraer and Dunragit;
- the A751(T); and
- the B738 between Portpatrick and the site access junction.

11.2.8 The study area chosen relates to those roads likely to be subject to the biggest increase in construction traffic i.e. those closest to the Site for which their users could experience significant effects and does not include all roads used in the movement of construction materials and AIL traffic.

11.2.9 Effects associated with construction traffic generated by the Proposed Development would be most pronounced in close proximity to the Site and on the final approaches to the Site. As vehicles travel away from the Proposed Development, they would disperse across the wider road network, thus diluting any potential effects. It is therefore

[6] Scottish Government. Planning Advice Note (PAN) 75. Available at: https://www.gov.scot/publications/planning-advice-note-pan-75-planning-transport/,
[7] Table 2.2 of Volume 11, Section 2, Part 5 of the Design Manual for Roads and Bridges (DMRB) (2008)
[8] Design Manual for Roads and Bridges, Volume 15, Part 5 "The NESA Manual" (2013)
[9] Transport Scotland (2012), Transport Assessment Guidance
[10] Scottish Government (2014), Onshore Wind Turbines: Planning Advice.
[11] Scottish Government (2022), Onshore Wind: Policy Statement
[12] Dumfries and Galloway Council (2019) Adopted Local Development Plan (LDP)
[13] Dumfries and Galloway Council Local Development Plan (LDP2), Supplementary Guidance: Wind Energy Development

expected that the effects relating to construction traffic are unlikely to be significant beyond the study area identified above.

11.2.10 The study area is presented in **Figure 11.1**.

Desk Based Research and Data Sources

11.2.11 To inform the baseline assessment and to establish the nature of the surrounding road and footway infrastructure, the following desktop reviews have been undertaken:

- Review of relevant transport planning policy;
- Consideration of potential origin locations of construction staff and potential supply locations for construction materials to inform extent of local area roads network to be considered in the assessment;
- Collection of existing traffic flow information;
- Review of the relevant roads hierarchy;
- Review of personal injury accident data[14];
- Identification of sensitive locations within study area (as defined by IEMA such as settlements, schools, tourist attractions etc.) using freely available online mapping;
- Identification of any other traffic sensitive receptors in the area (Core Paths, Public Rights of Way (PRoW), routes, communities, etc.) using freely available online mapping and relevant agency websites;
- Review of OS plans;
- Review of cumulative development information – DGC[15], and the Scottish Government's Energy Consents Unit portal[16]; and
- Identification of constraints to the movement of AILs through a Route Survey including swept path assessments – OS plans, video footage[17] and Google Streetview.

Field Survey

11.2.12 Site visits were undertaken in November 2022 and September 2023 to review the proposed access route and potential constraints for both general construction traffic and AILs.

11.2.13 The collection of traffic flows and speed data through automated traffic count (ATC) surveys was undertaken for the B738 in the vicinity of the Site access and for the A77 at Lochans (see **Figure 11.2**) to establish a traffic flow baseline at these points. These were undertaken over a seven-day period from 21 September 2023 to 27 September 2023.

Assessing Significance

Criteria for Assessing Sensitivity of Receptors

11.2.14 The Institute of Environmental Management and Assessment (IEMA) 'Guidelines for Environmental Impact Assessment' (2005) notes that the separate IEMA Guidelines should be used for characterising the environmental traffic and transport effects (offsite effects) and the assessment of significance of major new developments. Recent guidance published by the IEMA, namely 'Environmental Assessment of Traffic and Movement' (2023) provides an update to the previously used guidance, 'Guidelines for the Environmental Assessment of Road Traffic' (1993) document, that should be used to characterise the environmental traffic and transport effects (offsite effects) and the assessment of significance of major new developments. The guidelines intend to complement professional judgement and the experience of trained assessors.

[14] https://www.crashmap.co.uk/Search
[15] https://eaccess.dumgal.gov.uk/online-applications/
[16] https://www.energyconsents.scot/ApplicationSearch.aspx?T=1
[17] Video footage undertaken during Pell Frischmann site visit to inform Route Survey Report

11.2.15 In terms of traffic and transport impacts, the receptors are the users of the roads within the study area and the locations through which those roads pass.

11.2.16 The IEMA Guidelines include guidance on how the sensitivity of receptors should be determined. Using that as a starting point, a classification of sensitivity for users based on the characteristics of roads and locations has been developed. This is summarised in **Table 11.1.**

Table 11.1 Classification of Receptor Sensitivity

Receptor	Sensitivity			
	High	Medium	Low	Negligible
Users of Roads	Where the road is a minor rural road, not constructed to accommodate frequent use by HGVs. Includes roads with traffic control signals, waiting and loading restrictions, traffic calming measures.	Where the road is a local A or B class road, capable of regular use by HGV traffic. Includes roads where there is some traffic calming or traffic management measures.	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition. Includes roads with little or no traffic calming or traffic management measures.	Where roads have no adjacent settlements. Includes new strategic trunk roads that would be little affected by additional traffic and suitable for Abnormal Loads and new strategic trunk road junctions capable of accommodating Abnormal Loads.
Users / Residents of Locations	Where a location is a large rural settlement containing a high number of community and public services and facilities.	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.	Where a location is a small rural settlement, few community or public facilities or services.	Where a location includes individual dwellings or scattered settlements with no facilities.

11.2.17 It is acknowledged that there will be locations both in terms of users of roads or users / residents of locations that may not fit within one of the sensitivity classifications highlighted in **Table 11.2.** In these situations, professional judgement has been applied and justification for any changes provided.

11.2.18 Where a road passes through a location, users are considered subject to the highest level of sensitivity defined by either the road or location characteristics.

Criteria for Assessing Magnitude of Change

11.2.19 The magnitude of change has been assessed in accordance with the following rules which are outlined in the 2023 IEMA Guidelines, and are used to inform a screening exercise to determine which links within the study area are to be considered for detailed analysis in the assessment:

- Rule 1 – Include highway links where traffic flows will increase by more than 30 % (or where the number of heavy goods vehicles (HGVs) is predicted to increase by more than 30 %); and
- Rule 2 – Include any other specifically sensitive areas where total traffic flows are predicted to increase by 10% or more.

11.2.20 Examples of sensitive areas are presented in the 2023 IEMA Guidelines as hospitals, churches, schools, historical buildings and tourist attractions etc. These locations are to be assessed in relation to 'Rule 2'.

11.2.21 The 2023 IEMA Guidelines identify the key impacts that are most important when assessing the magnitude of traffic impacts from an individual development; the impacts and levels of magnitude are discussed below:

- Severance – the IEMA Guidance advises that, *"The Department for Transport has historically set out a range of indicators for determining the significance of severance. Changes in traffic flow of 30 %, 60 % and 90 % are regarded as producing 'slight', 'moderate' and 'substantial' changes in severance respectively. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by*

subsequent changes to guidance and are established through planning case law. However, caution needs to be observed when applying these thresholds as very low baseline flows are unlikely to experience severance impacts even with high percentage changes in traffic." (Para 3.16). The Guidelines acknowledge that changes in traffic flows should be used cautiously, stating that *"the assessment of severance should pay full regard to specific local conditions, e.g. sensitivity of adjacent land uses, prevalence of vulnerable people, whether or not crossing facilities are provided, traffic signal settings, etc."* (Para 3.17).

- Driver delay – the IEMA Guidelines note that these delays are only likely to be *"significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system"* (Para 3.20).
- Pedestrian delay (incorporating delay to all non-motorised users) – the IEMA Guidance advises *that "pedestrian delay and severance are closely related effects and can be grouped together. Changes in the volume, composition or speed of traffic may affect the ability of people to crossroads. In general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend on the general level of pedestrian activity, visibility and general physical conditions of the development site."* (Para 3.24). Furthermore, the guidance advises that *"…it is not considered wise to set down definitive thresholds. Instead, it is recommended that the competent traffic and movement expert use their judgement to determine whether pedestrian delay constitutes a significant effect."* (Para 3.26).
- Non-motorised user amenity - the IEMA Guidance advises that, *"The 1993 Guidelines suggest that a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or HGV component) is halved or doubled. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by subsequent changes to guidance and are established through planning case law."* (Para 3.30).
- Fear and intimidation – there are no commonly agreed thresholds for estimating levels of fear and intimidation, from known traffic and physical conditions. However, as the impact is considered to be sensitive to traffic flow, changes in traffic flow of 30 %, 60 % and 90 % are regarded as producing minor, moderate and substantial changes respectively in the guidelines. (Para 2.19). As such, this has been used to assess the potential impacts associated with construction activities around fear and intimidation on people in close proximity to the proposed development.
- Road safety – professional judgement would be used to assess the implications of local circumstances, or factors which may elevate or lessen risks of accidents. In line with the IEMA Guidance, those areas of collision clusters would be subject to detailed review.
- Road safety audits – It would be proposed to undertake any necessary Road Safety Audits (RSA) post consent, and it is considered that this can be secured via a planning condition.
- Large loads – The movement of the AILs associated with the construction of the proposed development have been considered in full, within a separate route survey assessment (see **Annex B** of **Technical Appendix 11.1**), which identifies physical mitigation measures required to accommodate the predicted loads. Additional mitigation in terms of addressing potential impacts on sensitive receptors are included as standard within **Mitigation During Construction** section.

11.2.22 While not specifically identified as more vulnerable road users, cyclists are considered in similar terms to pedestrians.

11.2.23 Table 3.7 of LA104 Environmental Assessment Methodology of the Design Manual for Roads and Bridges (DMRB) sets out four levels against which the magnitude of these impacts should be assessed – major, moderate, minor and negligible. The impacts and levels of magnitude are discussed below in **Table 11.2.**

Table 11.2 Magnitude of Effect

Magnitude	Description
Major	These effects are considered to be material in the decision-making process.
Moderate	These effects may be important but are not likely to be material factors in decision making. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a receptor.

Magnitude	Description
Minor	These effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in improving the subsequent design of the project.
Negligible	No effects or those that are imperceptible.

Criteria for Assessing Significance

11.2.24 The predicted significance of the effect was determined through a standard method of assessment based on professional judgement, considering both sensitivity and magnitude of change as detailed in **Table 11.3.**

Table 11.3 Significance criteria

Receptor Sensitivity	Magnitude of Change			
	Major	Moderate	Minor	Negligible
High	Major	Major / Moderate	Moderate / Minor	Minor
Medium	Major / Moderate	Moderate	Minor	Minor / Negligible
Low	Moderate / Minor	Minor	Minor	Minor / Negligible
Negligible	Minor	Minor	Minor / Negligible	Negligible

11.2.25 Significance is categorised as major, moderate, minor or negligible. Effects judged to be of **major** or **moderate** significance are considered to be significant in with the context of the EIA Regulations and require mitigation.

11.2.26 Where an effect could be one of **major** / **moderate** or **moderate** / **minor** significance, professional judgement is used to determine which option should be applicable. Effects judged to be of minor or negligible significance are considered not significant in the context of EIA Regulations.

Assessment Assumptions

11.2.27 The following main assumptions have informed the assessment of effects in this chapter:

- A construction programme of 12 months has been assumed.
- 50% of aggregate materials will be imported to the Site, with the remaining 50% won onsite from the proposed borrow pit (note, the onsite borrow pit assessment identifies that up to 100% of material can be won onsite, however, to ensure that a suitably robust assessment has been undertaken, the aforementioned assumption has been used to inform the production of this Chapter).
- 100% of concrete will be batched onsite meaning only raw materials to prepare the concrete i.e. cement powder, water and sand / aggregates will be imported.
- The year of construction is assumed to be 2028 and has been used for the basis of the assessment within this chapter.

11.2.28 Further details on assumptions made, including construction traffic routing and distribution and where raw material will be sourced, is included in **Technical Appendix 11.1**.

Assessment Limitations

11.2.29 Limitations to the assessment are as follows:

- The assessment is based upon average traffic flows in one-month periods. During the month, activities at the Site may fluctuate between one day and another. It is not possible to fully develop a day-by-day traffic flow estimate as no Balance of Plant (BoP) contractor has been appointed and external factors can impact upon activities on a day-by-day basis (weather conditions, availability of materials, time of year, etc).
- Assumptions on the original points for materials have been made to provide a worst-case assessment scenario. Should these origin points change, the effects on the study area may alter to those presented in the assessment.
- Construction material estimates set out in **Technical Appendix 11.1** are based on past experience of what is likely to be required for a project of this size and are considered to be appropriate for enabling a robust assessment of effects to be made.

11.2.30 It is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant environmental effects on Access, Traffic and Transport.

11.3 Existing Conditions

Active Travel Network

11.3.1 There are no dedicated pedestrian facilities in the immediate vicinity of the Site, reflecting its rural setting. Further away from the Proposed Development in the wider study area, there are pedestrian facilities within the larger settlements, including Portpatrick, Lochans, Stranraer, Cairnryan and Castle Kennedy, where there are footways on one side or both sides of the carriageways. In addition, within Stranraer there are dedicated signal-controlled crossing points, drop kerbs and pedestrian refuge islands for pedestrians. The level of pedestrian infrastructure is commensurate with the scale of the local settlements and their relative rural setting.

11.3.2 A review of the DGC Core Path network indicates that a number of Core Paths and paths are located either within or in the vicinity of the Site. A summary of those within the Site boundary or on roads within the study area are detailed below and shown in **Figure 7** in **Technical Appendix 11.1**:

- Within the Site Boundary:
  - Meikle Galdenoch to Larbrax Shore - LESW/413/1;
  - High Auchneel to Meikle Galdenoch - LESW/361/1 to 5; and
  - Meikle Galdenoch to Larbrax Shore - LESW/413/2.
- On, adjacent to or linking to roads within study area
  - Lochnaw Estate Leswalt - LESW/409/1;
  - Larbrax Shore to Portslogan Bridge - LESW/405/1;
  - Southern Upland Way - UNNO/504/1 and 3;
  - Dunskey Estate, Portpatrick - PORW/340/3;
  - Cairnpat - LOCA/375/1;
  - Ailsa Gate - OCHT/519/1;
  - Lochryan Coastal Path - STRA/429/2 and 3;
  - Rotary Club Path Cairnryan - CAIR/429/1 and 4;
  - Brockloch Fell Cairnryan - CAIR/376/1; and
  - Droughduil Primary School - OLDL/570/2.

11.3.3 In addition, there are a number of other recreational walking routes in the area, either in the vicinity of the Site or within close proximity to roads within the study area, which are as follows:

- The Rhins of Galloway Coast Path – a long distance (144 km) route around Scotland's most south-westerly peninsula, linking with the existing Mull of Galloway Trail. The circuit starts in Stranraer, via Luce Bay, the Mull of Galloway, along the west coast and the sheltered waters of Loch Ryan.

- Mull of Galloway Trail – the trail stretches for 40 km from the southernmost point of Scotland to the town of Stranraer. For much of that distance it follows the eastern coastline of the Rhins of Galloway. The walk takes in the RSPB reserve at the Mull, beaches along the coastline and quiet villages, before the final cross-country stretch to Stranraer.

11.3.4 With regards to cycling, a review of Sustrans National Cycle Network (NCN) map[18] indicates that sections of the A75(T) in Stranraer and Dunragit form part of the NCN Route 73. The route is open and signed on roads between Lochranza and Brodick on the Isle of Arran. Between Ardrossan and Kilmarnock, the route is opened, signed and mainly traffic-free.

Road Access

A77(T) / A77E

11.3.5 Between Cairnryan and Stranraer the A77(T) is a single carriageway road with one lane operating in each direction and is mainly subject to the national speed limit (60 miles per hour (mph)) outwith settlements, where it reduces to 30 mph. This section of road forms part of the Trunk Road Network and is maintained by Amey on behalf of TS.

11.3.6 Between Stranraer and Portpatrick the A77 is a single carriageway road with one lane operating in each direction. The road is subject to the national speed limit, reducing to 30 mph within settlements, for example Lochans. This section of the road is maintained by DGC.

A75(T)

11.3.7 Between Stranraer and Dunragit the A75(T) is a single carriageway road with one lane operating in each direction and is mainly subject to the national speed limit outwith settlements, where it reduces to 30 mph. This section of road forms part of the Trunk Road Network and is maintained by Amey on behalf of TS.

A751(T)

11.3.8 The A751(T) between the A75(T) to the south and A77(T) to the north is a single carriageway road with one lane operating in each direction and is subject to the national speed limit. This section of road forms part of the Trunk Road Network and is maintained by Amey on behalf of TS.

B738

11.3.9 The B738 runs from Dinvin to the east of Portpatrick to Kirkcolm on the west coast of Loch Ryan. The road is a single carriageway road of varying widths. Between its junction with the A77 and the access to Little Larbrax Cottage, the road has one lane operating in each direction. From this point through to the Site, the road width reduces, operating as a single track road with no road markings. The road is subject to the national speed limit and is maintained by DGC.

Road Suitability

11.3.10 The Agreed Timber Route Map[19] has been developed by The Timber Transport Forum who are a partnership of the forestry and timber industries, local government, national government agencies, timber hauliers and road and freight associations. One of the key aims of the forum is to minimise the impact of timber transport on the public road network, on local communities and the environment and a way of achieving this is to categorise the roads leading to forest areas in terms of their capacity to sustain the likely level of timber haulage vehicles i.e., HGVs. The routes are categorised into four groups, namely; ‘Agreed Routes’, ‘Consultation Routes’, ‘Severely Restricted Routes’ and ‘Excluded Routes’.

11.3.11 ‘Agreed Routes’ are categorised as routes used for timber haulage without restriction as regulated by the Road Traffic Act 1988. A-roads are classified as ‘Agreed Routes’ by default unless covered by one of the other road classifications. Those links classed as ‘Consultation Routes’ are categorised as a route which is key to timber extraction, but which are not up to ‘Agreed Route’ standard. Consultation with the local authority is required, and it may be necessary to agree limits of timing, allowable tonnage etc. before the route can be used. B-roads are

[18] https://www.sustrans.org.uk/national-cycle-network
[19] https://timbertransportforum.org.uk/

classified as 'Consultation Routes' by default unless covered by one of the other classifications. 'Severely Restricted Routes' are not normally to be used for timber transport in their present condition. These routes are close to being Excluded Routes. Consultation with the local authority is required prior to use. Finally, 'Excluded Routes' should not be used for timber transport in their present condition. These routes are either formally restricted, or are close to being formally restricted, to protect the network from damaging loads.

11.3.12 A number of the roads within the study area form part of the agreed route network used for the extraction of timber and are therefore regularly used by HGV traffic. This includes sections of the A77(T), A75(T) and A751 which are 'Agreed Routes'.

Existing Traffic Conditions

11.3.13 In order to assess the impact of development traffic on the study area, ATC surveys were undertaken on the B738 in close proximity to the Site access and on the A77 at Lochans, over a seven-day period in September 2023. To complement the ATC surveys, existing traffic count data was obtained from the Department for Transport (DfT)[20] database and the TS[21] database, with 2023 data utilised.

11.3.14 The traffic count sites used were as follows:

1. B738 (ATC);
2. A77 at Craigenquarroch (DfT count site reference: 1028);
3. A77 at Lochans (ATC);
4. A77 at Whiteleys (DfT count site reference: 20837);
5. A77 at Stranraer (DfT count site reference 10838);
6. A77(T) at Innermessan (TS count site reference: 00114);
7. A77(T) at Cairnryan (TS count site reference: 00383);
8. A751(T) (TS count site reference: 00116);
9. A75(T) East of Stranraer (TS count site reference: 00117); and
10. A75(T) West of Castle Kennedy (TS count site reference: 00118).

11.3.15 DfT and TS traffic data allow the traffic flows to be split into vehicle classes. The data was summarised into Cars/Light Goods Vehicles (LGVs) and HGVs (all goods vehicles >3.5tonnes gross maximum weight).

11.3.16 A National Road Traffic Forecast (NRTF) low growth factor was applied to the survey data, to bring the traffic data up to the base year of 2024. The NRTF low growth factor for 2023 to 2024 is 1.005.

11.3.17 These sites were identified as being areas where sensitive receptors on the access routes would be located.

11.3.18 **Figure 11.2** shows the location of the ATC, DfT and TS survey points, while **Table 11.4** summarises the Annual Average Daily Traffic (AADT) traffic data collected and used in this assessment.

Table 11.4 24-hour Average Traffic Data (2024)

No.	Survey Location	Data Source	Car & LGV	HGV	Total
1	B738	ATC	56	23	80
2	A77 at Craigenquarroch	DfT	1,850	104	1,954
3	A77 at Lochans	ATC	1,764	273	2,037
4	A77 at Whiteleys	DfT	5,387	202	5,589
5	A77 at Stranraer	DfT	2,469	131	2,600

[20] https://roadtraffic.dft.gov.uk/#6/55.254/-11.096/basemap-regions-countpoints
[21] https://ts.drakewell.com/multinodemap.asp

No.	Survey Location	Data Source	Car & LGV	HGV	Total
6	A77(T) at Innermessan	TS	3,083	1,431	4,514
7	A77(T) at Cairnryan	TS	1,611	753	2,364
8	A751(T)	TS	1,074	1,162	2,236
9	A75(T) East of Stranraer	TS	4,776	903	5,679
10	A75(T) West of Castle Kennedy	TS	4,312	1,309	5,621

11.3.19 The ATC and TS survey locations which provided traffic volume data were also used to obtain speed statistics. The two-way seven-day mean (average) and 85th percentile speeds observed at the count sites are summarised in **Table 11.5**.

Table 11.5 Speed Summary (2024)

No.	Survey Location	Data Source	Mean Speed (mph)	85%ile Speed (mph)	Speed Limit (mph)
1	B738	ATC	30.1	35.7	60
2	A77 at Craigenquarroch *	DfT	-	-	-
3	A77 at Lochans	ATC	27.5	31.6	30
4	A77 at Whiteleys *	DfT	-	-	-
5	A77 at Stranraer *	DfT	-	-	-
6	A77(T) at Innermessan **	TS	47.2	57.0	60
7	A77(T) at Cairnryan **	TS	14.7	30.4	30
8	A751(T) **	TS	53.6	62.7	60
9	A75(T) East of Stranraer **	TS	50.6	59.0	60
10	A75(T) West of Castle Kennedy **	TS	47.0	57.0	60

** No speed data available from DfT database*

*** Speed data from 2023 to align with traffic flow data*

11.3.20 Speed information from **Table 11.5**, suggests that the recorded speeds are broadly being adhered to within the study area, with only the 85th percentile speeds recorded marginally above the speed limits at three of the seven locations surveyed. Police Scotland may wish to consider enforcement spot checks in these areas, if deemed necessary.

Personal Injury Accident Review

11.3.21 Personal Injury Accident (PIA) data for the three-year period covering January 2020 to December 2022 was obtained from the online resource CrashMap[22] which uses data collected by the police about road traffic crashes occurring on British roads, where someone is injured. Transport Assessment Guidance[23] requires an analysis of the PIA on the road network in the vicinity of any development to be undertaken for at least the most recent 3-year period.

[22] https://www.crashmap.co.uk
[23] https://www.transport.gov.scot/media/4589/planning_reform_-_dpmtag_-_development_management__dpmtag_ref__17__-_transport_assessment_guidance_final_-_june_2012.pdf

11.3.22 The statistics are categorised into three categories, namely “slight”, “serious” and “fatal”. The locations and severity of the recorded accidents within the study area are summarised in **Table 11.6**, while **Figure 11.3** shows their locations.

Table 11.6 Personal Injury Accident Summary

Location	Slight	Serious	Fatal	HGV Incidents
B738 between the Site and the A77	0	0	0	0
A77 between Portpatrick and Stranraer	5	1	0	0
A77(T) between Stranraer and Cairnryan	1	2	0	1
A751(T) between the A77(T) and A75(T)	0	0	0	0
A75(T) between Stranraer and Dunragit	1	1	1	1
Total	**7**	**4**	**1**	**2**
Percentage	**58.3%**	**33.3%**	**8.3%**	**-**

11.3.23 A summary analysis of the incidents indicates that:

- a total of 12 accidents were recorded within the study area roads within the three-year period;
- of those 12 accidents, seven were classed as ‘slight’, four as ‘serious’ and one as ‘fatal’;
- the single fatality, occurred on the A75(T) in the vicinity of Inch Church, Castle Kennedy. The pedestrian was struck by a car at approximately 20:20 resulting in the fatality. There is no street lighting along this section of the road and the footway is overgrown, with a thick tree canopy;
- one of the recorded accidents involved a bicycle which collided with a car at a junction. This was recoded as a ‘slight’ accident;
- three of the recorded accidents involved HGVs, one ‘slight’, one ‘serious’ and the previously mentioned ‘fatal’ accident. The HGV involvement in the fatality is unclear however as the recoded information states the pedestrian was struck by a car. The other two accidents occurred at junctions;
- no recorded accidents involved a motorcycle;
- three of the recorded accidents involved young drivers (17-20) all of which were recoded as ‘slight’ and occurred on bends or at junctions; and
- there were no accidents recorded on the B738 in the vicinity of the proposed Site access junction.

11.3.24 In general, there are no clusters of PIAs at any location in the assessed area or high numbers of accidents involving HGVs for example. The majority of PIAs recorded occurred at or on approach to junctions / access to properties, where there is an increased interaction between vehicles and on bends.

11.3.25 Based on the information available, it has been established that there are no specific road safety issues within the immediate vicinity of the Proposed Development or within the study area that currently require to be addressed or would be exacerbated by the construction of the Proposed Development.

Future Baseline

11.3.26 Construction of the Proposed Development is estimated to commence during 2028 if consent is granted and is anticipated to last approximately 12 months depending on weather conditions and ecological considerations.

11.3.27 To assess the likely effects during the construction, base year traffic flows were determined by applying a NRTF low growth factor to the surveyed traffic flows. The NRTF low growth factor for 2024 to 2028 is 1.021. These factors were applied to the survey data to estimate the 2028 base traffic flows, as shown in **Table 11.7**. This forecast forms the baseline for the assessment of Access, Traffic and Transport related effects within this chapter.

Table 11.7 24-hour Average Traffic Data (2028)

No.	Survey Location	Car & LGV	HGV	Total
1	B738	58	24	81
2	A77 at Craigenquarroch	1,889	106	1,995
3	A77 at Lochans	1,801	279	2,079
4	A77 at Whiteleys	5,500	206	5,706
5	A77 at Stranraer	2,521	133	2,655
6	A77(T) at Innermessan	3,148	1,461	4,609
7	A77(T) at Cairnryan	1,645	769	2,413
8	A751(T)	1,097	1,186	2,283
9	A75(T) East of Stranraer	4,876	922	5,799
10	A75(T) West of Castle Kennedy	4,403	1,336	5,739

Please note minor variances due to rounding may occur.

Cumulative Developments

11.3.28 A review of the DGC online planning portal[24] and the Scottish Government's Energy Consents Unit portal[25] was undertaken within **Technical Appendix 11.1** to identify any consented developments within the vicinity of the Proposed Development which would generate significant traffic.

11.3.29 No other onshore wind farm developments or other potentially significant traffic generating developments were identified that should be considered as part of any cumulative assessment of construction effects within this Chapter.

11.4 Implications of Climate Change for Existing Conditions

11.4.1 It is considered that climate change projections will not have a discernible impact on the baseline conditions for road traffic within the timescales of the Proposed Development.

11.4.2 It is assumed that, at regional level, appropriate measures will be put in place to ensure flood risk is managed and does not have long term effects on transport infrastructure.

11.5 Future Baseline in the Absence of the Proposed Development

11.5.1 As noted above, the assessment has been undertaken on the basis of a future baseline of conditions in 2028, with growth factors applied. In the absence of the Proposed Development, it is anticipated that traffic growth will occur throughout the study area as a result of other development pressures, tourism and population flows.

11.6 Embedded Design Mitigation

11.6.1 The Site layout includes the use of one onsite borrow pit to provide material for the creation of the access tracks, hardstandings and compound bases. It is estimated that this can provide 100% of the aggregate requirements for the Site; however, to ensure that a robust assessment is undertaken, it has been assumed that the borrow pit will only provide 50% of the required stone volume, as noted in the **Assessment Assumptions** section.

11.6.2 Batching of concrete for use onsite is considered feasible and economic and facilities to enable this are being provided at the Proposed Development. The assessment, has, however, taken into consideration the importation of concrete batching materials, including water and aggregates.

[24] https://eaccess.dumgal.gov.uk/online-applications/
[25] https://www.energyconsents.scot/ApplicationSearch.aspx?T=1

11.7 Scope of the Assessment

Effects Assessed in Full

11.7.1 This assessment focusses on the effects of construction of the Proposed Development upon those receptors identified during the review of desk-based information and field surveys (the extents of the study areas are set out in the 'Study Area' section above).

11.7.2 The following potential effects were identified at the Scoping Stage for consideration in this assessment:

- Direct effects on road/path users during construction due to changes in traffic flows and transport of AILs in the surrounding study area; and
- Direct effects on local residents as a result of increased traffic during construction.

11.7.3 The assessment scenarios used for this topic are as follows:

- Future Baseline Flows (2028 – which are estimated by applying NRTF low growth factors to existing traffic flow information; and
- Future Baseline + Development Flows (2028) – which are estimated by applying the distributed development trips to the future baseline traffic flow information.

Effects Scoped Out

11.7.4 On the basis of the desk based and field survey work undertaken, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, and feedback received from consultees, the following topic areas have been 'scoped out' of detailed assessment, as proposed in the Scoping Report (August 2023):

- Operational Phase: The traffic effects during the operational phase of the Proposed Development will be low, with two to three vehicles per week for maintenance purposes, far below the recognised thresholds for triggering a formal transport assessment. As such, the effects during the operational phase are scoped out of the assessment.
- Decommissioning Phase: The traffic effects during the decommissioning phase can only be fully assessed closer to that period, 35 years on from the completion of the Proposed Development. As elements of the Proposed Development are likely to remain in-situ (such as cable trenches, some access tracks, etc.), the traffic flows associated with the decommissioning works will be lower than those associated with the construction phase. The construction phase therefore represents a worst-case assessment, and as such Decommissioning effects are considered to be less than or equal to, the predicted construction phase effects.

11.8 Assessment of Likely Significant Effects

11.8.1 The assessment of effects is based on the project description as outlined in **Chapter 4: Development Description** and the embedded mitigation by design described in **Chapter 3: Site Selection and Design Strategy**.

11.8.2 A review of sensitive receptors has been undertaken within the study area. **Table 11.8** details the receptors and their sensitivities for use within the following assessment. A justification for the sensitivity has been provided, based upon the details contained in **Table 11.1**.

Table 11.8 Receptor Sensitivity Summary

Receptor	Sensitivity	Justification
A77(T) Users	Low	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition.
A77 Users	Medium	Where the road is a local A or B class road, capable of regular use by HGV traffic.
A75(T) Users	Low	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition.

Receptor	Sensitivity	Justification
A751(T) Users	Low	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition.
B738 Users	High	Where the road is a minor rural road, not constructed to accommodate frequent use by HGVs.
Residents on the A77(T)	Negligible	Where a location includes individual dwellings or scattered settlements with no facilities.
Residents on the A77	Negligible	Where a location includes individual dwellings or scattered settlements with no facilities.
Residents on the A75(T)	Negligible	Where a location includes individual dwellings or scattered settlements with no facilities.
Residents on the A751(T)	Negligible	Where a location includes individual dwellings or scattered settlements with no facilities.
Residents on the B738	Negligible	Where a location includes individual dwellings or scattered settlements with no facilities.
Stranraer Residents	High	Where a location is a large rural settlement containing a high number of community and public services and facilities.
Cairnryan Residents	Low	Where a location is a small rural settlement, few community or public facilities or services.
Castle Kennedy Residents	Low	Where a location is a small rural settlement, few community or public facilities or services.
Dunragit Residents	Low	Where a location is a small rural settlement, few community or public facilities or services.
Lochans Residents	Low	Where a location is a small rural settlement, few community or public facilities or services.
Portpatrick Residents	Medium	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.
Core Path / Path Users within the Site and study area	High	Minor paths used by walkers and cyclists, not constructed to accommodate HGV traffic flows

11.8.3 As previously noted in the 'Criteria for Assessing Magnitude of Change' section, examples of sensitive areas are presented in the IEMA Guidelines as locations which include hospitals, churches, schools, historical buildings tourist attractions for example. Based on these indicators which are stated within the IEMA Guidelines, the following locations within the study area have been identified as sensitive areas in this assessment:

- Stranraer (schools, places of worship, tourist attractions, hospital and retail areas);
- Cairnryan / Cairnryan Holiday Park (tourist attraction);
- Ryanbay Holiday Park on the A77(T) (tourist attraction);
- Castle Kennedy (school and place of worship); and
- Portpatrick (schools, places of worship and tourist attractions).

11.8.4 These locations are therefore subject to 'Rule 2' of the IEMA Guidelines which requires a full assessment of effects if the locations are subject to a total traffic increase of 10% or more. All other locations within the study area are subject to 'Rule 1' and are assessed if total traffic flows (or HGV flows) on highway links increase by more than 30%.

Construction Effects

Predicted Construction Effects

11.8.5 The assessment is based upon the construction effects that may occur within the study area during the 12-month construction programme. To assess the effects, it is necessary to determine the likely traffic generation associated with the Proposed Development during the peak construction month.

11.8.6 During the 12-month construction period, the following traffic will require access to the Site:

- staff transport, in either cars or staff minibuses;
- construction equipment and materials, deliveries of machinery and supplies such as concrete materials and crushed rock;
- abnormal loads consisting of the wind turbine sections and a heavy lift crane; and
- components relating to the Battery Energy Storage System (BESS) and associated infrastructure.

11.8.7 Average monthly traffic flow data was used to establish the construction trips associated with the Proposed Development and these are detailed in the Transport Assessment provided as **Technical Appendix 11.1**. The trip estimates have been based upon first principle estimates of traffic movements to and from the Site, having established the likely volumes of construction materials, resources and components.

11.8.8 With the exception of the turbine components, most traffic will be HGVs and normal construction plant, including grading tractors, excavators, high-capacity cranes, forklifts and dumper trucks. Most will arrive at the Site access junction on low loaders.

11.8.9 The turbines are delivered in component sections for transport and will be assembled within the turbine array. The nacelle, hub, drive train, blade, tower sections are classified as AILs due to their weight and/or length, width and height when loaded. The components can be delivered on a variety of transport platforms with typical examples illustrated in **Technical Appendix 11.1**.

11.8.10 In addition to the turbine deliveries, up to two high-capacity erection cranes will be needed to offload components and erect the turbines. The cranes are likely to be mobile cranes with a capacity up to 1,000 tonnes that will be escorted by boom and ballast trucks to allow full mobilisation onsite. A smaller erector / assist crane will also be present to allow the assembly of the main cranes and to ease overall erection of the turbines.

11.8.11 The resulting traffic generation profile is presented in **Technical Appendix 11.1**. The maximum traffic effect associated with construction of the Proposed Development is predicted to occur in month seven of the construction programme. During this month, an average of 38 HGV movements is predicted per day with a further 20 car and light van movements per day to transport construction workers to and from the Site.

11.8.12 These figures on average indicate approximately three additional HGV two-way movements per hour on the network at the peak of construction activities, during a typical 12 hour working day.

11.8.13 The distribution of development traffic on the network will vary depending on the types of loads being transported, however the vast majority of materials will route to the Site access junction from the south on the B738, via the A77/A77(T) from the north or A75(T) from the east. The assumptions for the distribution of construction traffic during the peak month are presented in **Technical Appendix 11.1**.

11.8.14 The most appropriate Port of Entry (POE) for the delivery of wind turbine components will be Glasgow King George V (KGV) Docks. AILs would route to the Site via the M8, M74, A6/M6, A75(T), A77 and B738 through to the Site access junction.

11.8.15 For the purposes of preparing this chapter and **Technical Appendix 11.1**, it has been assumed that all AIL traffic will access the Proposed Development Site via the following route:

- loads would depart the KGV Docks and proceed to exit the roundabout onto Kings Inch Drive;
- at the roundabout loads would take the 2nd exit and stay on Kings Inch Drive;
- loads would merge onto the M8 via the ramp to Glasgow;
- loads would take the M74 exit toward Carlisle;

- at Junction 42, loads would take the A6 exit to Carlisle;
- at the roundabout loads will exit onto the M6 ramp;
- at Junction 22 loads would take the A75(T) exit;
- loads will continue west on the A75(T) to Stranraer, where they would turn left on to Commerce Road continuing through to the A77;
- loads would turn left onto the A77 heading south to its junction with the A716 where they would turn right continuing on the A77; and
- at the junction between the A77 and B738 the loads would turn right and continue through to the Site access junction. Access to turbine locations will be made by purpose-built access tracks or upgraded existing tracks.

11.8.16 The above route is shown in **Figure 11.4**.

11.8.17 Following the distribution and assignment of traffic flows to the study area network, the resultant daily traffic during the peak of construction in month seven, is summarised in **Table 11.9**. Where road links show no assignment of traffic flows, this is due to no construction traffic associated with the peak month routing to the Site via this route.

Table 11.9 Peak Construction Traffic

No.	Survey Location	Car & LGV	HGV	Total
1	B738	20	38	58
2	A77 at Craigenquarroch	20	38	58
3	A77 at Lochans	20	38	58
4	A77 at Whiteleys	20	38	58
5	A77 at Stranraer	20	38	58
6	A77(T) at Innermessan	8	4	12
7	A77(T) at Cairnryan	8	4	12
8	A751(T)	0	0	0
9	A75(T) East of Stranraer	8	36	44
10	A75(T) West of Castle Kennedy	8	36	44

Please note minor variances due to rounding may occur.

11.8.18 The construction traffic was compared against the future baseline traffic to estimate the increase in traffic associated with this phase of the Proposed Development. **Table 11.10** illustrates the potential traffic impact at the peak of construction activity during month seven.

Table 11.10 2028 Future Baseline + Construction Traffic Impact Summary

No.	Survey Location	Car & LGV	HGV	Total	Cars & LGV % Increase	HGV % Increase	Total Traffic % Increase
1	B738	78	62	139	34.72%	161.01%	71.42%
2	A77 at Craigenquarroch	1,909	144	2,053	1.06%	35.95%	2.91%
3	A77 at Lochans	1,821	317	2,137	1.11%	13.64%	2.79%
4	A77 at Whiteleys	5,520	244	5,764	0.36%	18.42%	1.02%
5	A77 at Stranraer	2,541	171	2,713	0.79%	28.49%	2.18%

No.	Survey Location	Car & LGV	HGV	Total	Cars & LGV % Increase	HGV % Increase	Total Traffic % Increase
6	A77(T) at Innermessan	3,156	1,465	4,621	0.25%	0.27%	0.26%
7	A77(T) at Cairnryan	1,653	773	2,425	0.49%	0.52%	0.50%
8	A751(T)	1,097	1,186	2,283	0.00%	0.00%	0.00%
9	A75(T) East of Stranraer	4,884	958	5,843	0.16%	3.90%	0.76%
10	A75(T) West of Castle Kennedy	4,411	1,372	5,783	0.18%	2.69%	0.77%

Please note minor variances due to rounding may occur.

11.8.19 The total traffic movements are predicted to increase by a maximum of 71.42 % on the B738, where the proposed Site access junction is located and as such all construction traffic will use. On the rest of the study area, the highest total traffic increase is 2.91 %, which occurs on the A77 in the vicinity of Craigenquarroch.

11.8.20 **Table 11.10** shows that highest HGV traffic movements increase will occur on the B738, where it is estimated to increase by 161.01 %, and whilst this increase could be considered high, it is generally caused by the low HGV flows on the road at this location. To put the increase into perspective, the B738 will see an additional 38 HGV movements per day or three HGV movements per hour over the course of a typical 12-hour shift. This is not considered significant in terms of overall traffic flows.

11.8.21 The next highest HGV traffic movement increase would occur on the A77 in the vicinity of Craigenquarroch, with a 35.95 % increase. To put the increase into perspective, the A77 will see an additional 38 HGV movements per day, three HGV movements per hour over the course of a typical 12-hour shift. This is not considered significant in terms of overall traffic flows.

11.8.22 A review of existing theoretical road capacity has been undertaken using The NESA Manual, formerly part of the Design Manual for Roads and Bridges, Volume 15, Part 5. The theoretical road capacity has been estimated for each of the road links for a 12-hour period that makes up the study area. The B738 has been split in to two distinct sections for the capacity assessment, to take account of the change in character of the road, primarily the reduction in width. The results are summarised in **Table 11.10**.

Table 11.11 2028 Peak Traffic Flow Capacity Review

No.	Survey Location	2028 Baseline Flow (total traffic)	2028 Base + Development Flows (total traffic)	Theoretical Road Capacity (12hr)	Spare Road Capacity %
1	B738 between the A77 and Little Larbrax Cottage	81	139	19,200	99.3%
	B738 between Little Larbrax Cottage and the Site	81	139	3,360	95.9%
2	A77 at Craigenquarroch	1,995	2,053	19,200	89.3%
3	A77 at Lochans	2,079	2,137	21,600	90.1%
4	A77 at Whiteleys	5,706	5,764	21,600	73.3%
5	A77 at Stranraer	2,655	2,713	19,200	85.9%
6	A77(T) at Innermessan	4,609	4,621	28,800	84.0%

No.	Survey Location	2028 Baseline Flow (total traffic)	2028 Base + Development Flows (total traffic)	Theoretical Road Capacity (12hr)	Spare Road Capacity %
7	A77(T) at Cairnryan	2,413	2,425	28,800	91.6%
8	A751(T)	2,283	2,283	21,600	89.4%
9	A75(T) East of Stranraer	5,799	5,843	28,800	79.7%
10	A75(T) West of Castle Kennedy	5,739	5,783	28,800	79.9%

Please note minor variances due to rounding may occur.

11.8.23 The results indicate there are no road capacity issues with the addition of construction traffic associated with the Proposed Development and significant spare capacity exists within the trunk and local road networks to accommodate all construction phase traffic.

11.8.24 In accordance with the IEMA Guidelines Rules 1 and 2, detailed assessments have been undertaken on the following receptors within the study area. Note all receptors fall within Rule 1:

- B738 Users (High Sensitivity);
- Residents on the B738 (Negligible Sensitivity);
- A77 Users at Craigenquarroch (including approach to Portpatrick) (Medium Sensitivity); and
- Residents on the A77 at Craigenquarroch (Negligible Sensitivity).

11.8.25 As there are Core Paths and other paths located within the Site and within the study area, which are noted as sensitive receptors in **Table 11.8,** as a worst-case assessment it is assumed that traffic impacting on these paths will be an increase of over 100 %, and therefore a further assessment has been undertaken, and the summary of construction phase effects is presented in **Table 11.12**.

11.8.26 For the purposes of undertaking the assessment, where both the users of a road and residents in the vicinity of the road require to be assessed, these have been done together to avoid repetition.

Table 11.12 Construction Phase Effects Summary

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
B738 Users and Residents	Severance	Major	Major (**Significant**)	The character of the road and surrounding area, whereby there are limited pedestrian facilities or places residents would be crossing for example would suggest that interactions would be expected to be minimal. With regards to potential impacts on other road users, the predicted increase in HGV traffic is 161.01 % which while statistically significant, is due to the low level of existing HGV traffic on the road. The overall increase in traffic is forecast to be only 71.42 %. When looking at the theoretical road capacity of the road in **Table 11.12**, it can be seen that there is between 95.9 % and 99.3 % spare capacity. The base plus development trips accounts for a total of 139 vehicular trips, assuming the majority of these occur between 07:00 and 19:00 for example,

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
				this would equate to approximately 12 vehicle movement per hour, which is not considered significant. This would be further reduced if spread across the whole day. Specifically in relation to the Proposed Development, the peak of construction activity is expected to occur in month seven when there will be a total of 58 vehicle movements per day, comprising 38 two-way HGV movements and 20 two-way car / LGV movements. This would equate to approximately five two-way total vehicles movements or three two-way HGV movements per hour, across a typical 12-hour day, assuming a flat traffic profile. In the absence of mitigation, the effect of severance is therefore considered to be **major**.
	Driver Delay	Minor	Moderate / Minor (Not Significant)	When considering the effects purely in numerical terms based on the assessment criteria, there is ample spare capacity on the road (between 95.9 % and 99.3 %), with the addition of construction traffic. This however does not take cognisance of the character of the road and the potential for other road users to become frustrated by the increase in traffic. It should however be noted that it is estimated that only an additional 58 two-way vehicle movements (29 inbound and 29 outbound) would occur in a typical day during the construction phase. Given that there is significant spare capacity on the road and improvements will be made to the road to accommodate the AILs, driver frustration would be expected to be minimal. The effect on driver delay is therefore considered **minor**.
	Pedestrian Delay	Negligible	Minor (Not Significant)	With the exception of the Core Paths, to the south of the Site, which tie into the B738, there are no pedestrian facilities located along the B738 within the study area. The effect on pedestrian delay is therefore considered to be **minor**.
	Non-motorised User Amenity	Minor	Moderate / Minor (Not Significant)	With regards to potential impacts on non-motorised user amenity, the predicted increase in HGV traffic is 161.01 % which while statistically significant, is due to the low level of existing HGV traffic on the road. The

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
				overall increase in traffic is forecast to be only 71.42 %. The base plus development trips accounts for a total of 139 vehicular trips, assuming the majority of these occurred between 07:00 and 19:00 for example, this would equate to approximately 12 vehicle movement per hour, which is not considered significant. This would be further reduced if spread across the whole day. The increase of 58 vehicle movements per day would be unlikely to affect non-motorised user amenity. The effect on non-motorised user amenity is therefore considered to be **minor**.
	Fear & Intimidation	Major	Major (**Significant**)	With regards to potential impacts on other road users, the predicted increase in HGV traffic is 161.01 % which while statistically significant, is due to the low level of existing HGV traffic on the road. The overall increase in traffic is forecast to be only 71.42 %. When looking at the theoretical road capacity of the road in **Table 11.12**, it can be seen that there is between 95.9 % and 99.3 % spare capacity. The base plus development trips accounts for a total of 139 vehicular trips, assuming the majority of these occurred between 07:00 and 19:00 for example, this would equate to approximately 12 vehicle movement per hour, which is not considered significant. This would be further reduced if spread across the whole day. Specifically in relation to the Proposed Development, the peak of construction activity is expected to occur in month seven when there will be a total of 58 vehicle movements per day, comprising 38 two-way HGV movements and 20 two-way car / LGV movements. In the absence of the mitigation, the effect of fear and intimidation is therefore considered to be **major**.
	Road Safety	Minor	Moderate / Minor (Not Significant)	No accidents were recorded on the B738 within the study area over the last 3-year period. The character of the road could lead to driver frustration, however. Therefore, the effect of road safety is considered **minor**.

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
	Large Loads	Major	Major (**Significant**)	It is anticipated that the Proposed Development will require 13 AIL convoys to be delivered to Site over a two-month period. These loads will be delivered in convoys of three AILs per convoy and will be accompanied by three escort vehicles and Police escort. The effect is therefore considered **major.**
A77 Users and Residents at Craigenquarroch (including approach to Portpatrick)	Severance	Moderate	Moderate (**Significant**)	The character of the road and surrounding area, whereby there are limited pedestrian facilities or places residents would be crossing for example would suggest that interactions would be expected to be minimal. With regards to potential impacts on other road users, the predicted increase in HGV traffic is 35.95 % which while statistically significant, is due to the low level of existing HGV traffic on the road. The overall increase in traffic is forecast to be only 2.91 % which is below daily traffic variations. When looking at the theoretical road capacity of the road in **Table 11.12**, it can be seen that there is 89.3 % spare capacity. The base plus development trips accounts for a total of 2,053 vehicular trips, assuming the majority of these occurred between 07:00 and 19:00 for example, this would equate to approximately 171 vehicle movement per hour, which is not considered significant for a road of this standard. This would be further reduced if spread across the whole day. Specifically in relation to the Proposed Development, the peak of construction activity is expected to occur in month seven when there will be a total of 58 vehicle movements per day, comprising 38 two-way HGV movements and 20 two-way car / LGV movements. This would equate to approximately five two-way total vehicles movements or three two-way HGV movements per hour, across a typical 12-hour day, assuming a flat traffic profile. In the absence of mitigation, the effect of severance is therefore considered to be **moderate**.
	Driver Delay	Minor	Minor (Not Significant)	When considering the effects purely in numerical terms based on the assessment criteria, there is ample

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
				spare capacity on the road (89.3 %) with the addition of construction traffic. This however does not take cognisance of the character of the road and the potential for other road users to become frustrated by the increase in traffic, in particular HGVs. It should however be noted that it is estimated that only an additional 58 two-way vehicle movements (29 inbound and 29 outbound) would occur in a typical day during the construction phase. Given that there is significant spare capacity on the road, driver frustration would be expected to be minimal. In the absence of mitigation, the effect on driver delay is therefore considered **minor**.
	Pedestrian Delay	Negligible	Minor / Negligible (Not Significant)	With the exception of the Core Path that ties in to the A77, leading up to Cairn Pat, there are no pedestrian facilities located along the A77 at this location within the study area. The effect on pedestrian delay is therefore considered to be **negligible**.
	Non-motorised User Amenity	Minor	Minor (Not Significant)	With regards to potential impacts on non-motorised user amenity, the predicted increase in HGV traffic is 35.95 % which while statistically significant, is due to the low level of existing HGV traffic on the road. The overall increase in traffic is forecast to be only 2.91 %. The base plus development trips accounts for a total of 2,053 vehicular trips, assuming the majority of these occurred between 07:00 and 19:00 for example, this would equate to approximately 171 vehicle movement per hour, which is not considered significant. This would be further reduced if spread across the whole day. The increase of 58 vehicle movements per day would be unlikely to affect non-motorised user amenity. The effect on non-motorised user amenity is therefore considered to be **minor**.
	Fear & Intimidation	Moderate	Moderate (**Significant**)	With regards to potential impacts on other road users, the predicted increase in HGV traffic is 35.95 % which while statistically significant, is due to the low level of existing HGV

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
				traffic on the road. The overall increase in traffic is forecast to be only 2.91 %. When looking at the theoretical road capacity of the road in **Table 11.12**, it can be seen that there is 89.3 % spare capacity. The base plus development trips accounts for a total of 2,053 vehicular trips, assuming the majority of these occurred between 07:00 and 19:00 for example, this would equate to approximately 171 vehicle movement per hour, which is not considered significant. This would be further reduced if spread across the whole day. Specifically in relation to the Proposed Development, the peak of construction activity is expected to occur in month seven when there will be a total of 58 vehicle movements per day, comprising 38 two-way HGV movements and 20 two-way car / LGV movements. In the absence of mitigation, the effect of fear and intimidation is therefore considered to be **moderate**.
	Road Safety	Minor	Minor (Not Significant)	Three accidents were recorded on the A77 at this location within the study area over the last 3-year period. All three accidents were 'slight' injury accidents and occurred on bends on the road and were single vehicle accidents. The character of the road could lead to driver frustration, however. Therefore, the effect of road safety is considered **minor**.
	Large Loads	Major	Major / Moderate (**Significant**)	It is anticipated that the Proposed Development will require 13 AIL convoys to be delivered to Site over a two-month period. These loads will be delivered in convoys of three AILs per convoy and will be accompanied by three escort vehicles and Police escort. The effect is therefore considered **moderate.**
Core Path / Path Users within the Site and study area	Severance	Major	Major (**Significant**)	The presence of construction traffic associated with the Proposed Development, over a prolonged period of time within the Site where there was previously minimal traffic could lead to severance of the path network. The effect, without additional mitigation, is therefore considered to be **major**.

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
	Driver Delay	N/A	N/A	N/A
	Pedestrian Delay	Major	Major (**Significant**)	Pedestrians could experience delays if their movements interact with construction traffic along the path network which would not be experienced prior to the construction period. The effect is therefore considered **major**.
	Non-motorised User Amenity	Major	Major (**Significant**)	The presence of traffic flows for a longer than normal time at a location where there would have been minimal or no traffic prior to the construction phase could affect the amenity of the path network for users. The effect is therefore considered **major**.
	Fear & Intimidation	Major	Major (**Significant**)	The presence of traffic flows for a longer than normal time at a location where there would have been minimal or no traffic prior to the construction phase could affect the amenity of the path network for users. The effect is therefore considered **major**.
	Road Safety	Major	Major (Significant)	There is potential to impact the safety of the path users interacting with construction delivery vehicles. The impact is therefore considered **major**.
	Large Loads	Major	Major (Significant)	There is potential to impact the safety of the path users interacting with AIL delivery vehicles. The effect is therefore considered **major**.

11.8.27 The assessment suggests that the following receptors are considered likely to experience Significant effects in accordance with the EIA Regulations, prior to the application of mitigation measures:

- B738 Users;
- Residents on the B738;
- A77 Users at Craigenquarroch (including approach to Portpatrick);
- Residents on the A77 at Craigenquarroch; and
- Core Path / Path Users within the Site and study area.

11.8.28 It should be noted that the impacts relate solely to the peak of construction activities and that the construction period is short lived and the effects are temporary in nature. Whilst it is acknowledged that other months within the construction programme may cause Significant effects, these would be less than those assessed and for which mitigation measures have been proposed.

Committed Additional Mitigation

Construction Traffic Management Plan (CTMP)

11.8.29 The following measures will be implemented during the construction phase through the CTMP, secured via a deemed planning permission condition:

- Agree AIL route modifications and improvements with DGC, TS and other relevant stakeholders. Works which will be required to facilitate turbine deliveries are outlined in the RSR, which is presented in Annex B of **Technical Appendix 11.1**;
- Where possible, the detailed design process will minimise the volume of material to be imported to Site to help reduce HGV numbers;
- A Staff Travel Plan, including transport modes to and from the worksite (including pick up and drop off times);
- A Transport Management Plan for AIL deliveries;
- All materials delivery lorries (dry materials) should be sheeted to reduce dust and stop spillage on public roads;
- Specific training and disciplinary measures should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;
- Wheel cleaning facilities may be established at the Site entrance, depending on the views of DGC;
- Normal Site working hours will be limited to between 0700 and 1900 Monday to Friday and 0700 and 1300 on Saturdays though component delivery and turbine erection may take place outside these hours i.e. depending on when police escort is available;
- Appropriate traffic management measures will be put in place on the A77 and B738 leading through to the Site, to avoid conflict with general traffic, subject to the agreement of DGC. Typical measures will include HGV turning and crossing signs and / or banksmen at the Site access and warning signs;
- Provide construction updates on the project website, social media feeds and a newsletter to be distributed to residents within an agreed distance of the Site;
- Adoption of a voluntary reduced speed limits, for example on the A77 and B738 in the vicinity of the Site access junction and at other locations to be agreed with DGC;
- All drivers will be required to attend an induction to include:
  - A toolbox talk safety briefing;
  - The need for appropriate care and speed control;
  - A briefing on driver speed reduction agreements (to slow Site traffic at sensitive locations through the villages); and
  - Identification of the required access routes and the controls to ensure no departure from these routes.

Offsite Mitigation

11.8.30 DGC may request that an agreement to cover the cost of abnormal wear and tear on its road network is made. Video footage of the pre-construction phase condition of the abnormal loads access route and the construction vehicles route will be recorded to provide a baseline of the condition of the road prior to any construction work commencing. This baseline will provide evidence of any change in the road condition during the construction phase. Any necessary repairs will be coordinated with DGC's roads team. Any damage caused by traffic associated with the Proposed Development during the construction period, that would be hazardous to public traffic, would be repaired immediately.

11.8.31 Damage to road infrastructure caused directly by construction traffic will be remediated, and street furniture that is removed on a temporary basis will be fully reinstated.

11.8.32 There will be a regular road condition review, and any debris and mud will be removed from the carriageway using an onsite road sweeper to ensure road safety for all road users.

Specific Abnormal Load Mitigation

11.8.33 There are a number of traffic management measures that could help reduce the effect of AIL convoys.

11.8.34 All AIL deliveries will be undertaken at appropriate times (to be discussed and agreed with the local authority, TS and the police) with the aim to minimise the effect on the local road network. It is likely that the abnormal load convoys will travel in the early morning periods before peak times while general construction traffic will generally avoid the morning and evening peak periods.

11.8.35 The majority of potential conflicts between construction traffic and other road users will occur with abnormal load traffic. General construction traffic is not likely to come into conflict with other road users as the vehicles are smaller and road users are generally more accustomed to them.

11.8.36 Potential conflicts between the abnormal loads and other road users can occur at a variety of locations and circumstances. The main potential conflicts are likely to occur:

- On sections of single carriageway road or narrow road sections, for example on the A77 and B738;
- At locations where there are significant changes in the horizontal alignment of the carriageway, requiring the loads to use the full carriageway width;
- Where traffic turns at a road junction, requiring other traffic to be restrained on other approach arms; and
- In locations where high speeds of general traffic are predicted.

11.8.37 Advance warning signs will be installed on the approaches to the affected road network. Information signage could be installed to help improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist).

11.8.38 The location and numbers of signs will be agreed post consent and would form part of the wider traffic management proposals for the Proposed Development.

11.8.39 Information on the wind turbine convoys will be provided to local media outlets such as local papers and local radio to help assist the public. Information will relate to expected vehicle movements from the port of entry through to the Site access junction. This will assist residents becoming aware of the convoy movements and may help reduce any potential conflicts.

11.8.40 The Applicant will also ensure information was distributed through its communication team via the project website, local newsletters, and social media.

11.8.41 A police escort will be required to facilitate the delivery of the AILs. The police escort will be further supplemented by a civilian pilot car to assist with the escort duty. It is proposed that an advance escort will warn oncoming vehicles ahead of the convoy, with one escort staying with the convoy at all times. The escorts and convoy will remain in radio contact at all times where possible.

11.8.42 The abnormal loads convoys will be no more than three AILs long, or as advised by the police, to permit safe transit along the delivery route and to allow limited overtaking opportunities for following traffic where it is safe to do so.

11.8.43 The times in which the convoys will travel will need to be agreed with Police Scotland who have sole discretion on when loads can be moved.

AIL Transport Management Plan

11.8.44 An Abnormal Load Transport Management Plan will be prepared to cater for all movements to and from the Proposed Development Site. This will include:

- Procedures for liaising with the emergency services to ensure that police, fire and ambulance vehicles are not impeded by the loads. This is normally undertaken by informing the emergency services of delivery times and dates, and agreeing communication protocols and lay over areas to allow overtaking;
- A diary of proposed delivery movements to liaise with the communities to avoid key dates such as local events;
- A protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic; and

- Proposals to establish a construction liaison group to ensure the smooth management of the project / public interface with the applicant, the construction contractors, the local community, and if appropriate, the police forming the committee. This committee would form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising.

Staff Travel Plan

11.8.45 A Staff Travel Plan will be deployed where necessary, to manage the arrival and departure profile of staff and to encourage sustainable modes of transport, especially car-sharing. A package of measures could include:

- Appointment of a Travel Plan Coordinator (TPC);
- Provision of public transport information;
- Mini-bus service for transport of Site staff;
- Promotion of a car sharing scheme;
- Car parking management; and
- Restrictions on parking, for example on the public road network and verges in the vicinity of the Site entrance.

Outdoor Access Management Plan

11.8.46 Within the Site, consideration has been given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the Core Paths and public roads. A Path Planning Study will be conducted post consent and will be secured through a planning condition if deemed necessary. Findings from the study will be used to formulate a set of measures into an Outdoor Access Management Plan (OAMP) if required.

11.8.47 Users of the Core Paths / Rights of Way will be separated from construction traffic through the use of barriers. Crossing points will be provided where required, with path users having right of way and temporary diversions will be provided where necessary. Appropriate Traffic Signs Manual Chapter 8[26] compliant temporary road signage will be provided to assist at these crossings for the benefit of all users.

11.8.48 The principal contractor will ensure that speed limits are always adhered to by their drivers and associated subcontractors. This is particularly important within close proximity to the Core Paths, Rights of Way and at crossing points. Advisory speed limit signage will also be installed on approaches to areas where path users may interact with construction traffic.

11.8.49 Signage will be installed on the Site exits that makes drivers aware of local speed limits and reminding drivers of the potential presence of pedestrians and cyclists in the area. This will also be emphasised in the weekly toolbox talks.

11.8.50 No scoping response has been received from The British Horse Society, however measures implemented on similar schemes will be given consideration as part of the Proposed Development. These measures are predominantly focused around the interactions between HGV traffic and horses. Horses are normally nervous of large vehicles, particularly when they do not often meet them. Horses are flight animals and will run away in panic if really frightened. Riders will do all they can to prevent this but, should it happen, it could cause a serious accident for other road users, as well as for the horse and rider.

11.8.51 The main factors causing fear in horses in this situation are:

- something approaching them, which is unfamiliar and intimidating;
- a large moving object, especially if it is noisy;
- lack of space between the horse and the vehicle;
- the sound of air brakes; and
- anxiety on the part of the rider.

11.8.52 The British Horse Society has previously recommended the following actions that will be included in the Site training for all HGV staff:

[26] https://assets.publishing.service.gov.uk/media/5a74adeaed915d7ab83b5ab2/traffic-signs-manual-chapter-08-part-01.pdf

- on seeing riders approaching, drivers must slow down and stop, minimising the sound of air brakes, if possible;
- if the horse still shows signs of nervousness while approaching the vehicle, the engine should be shut down (if it is safe to do so);
- the vehicle should not move off until the riders are well clear of the back of the HGV;
- if drivers are wishing to overtake riders, please approach slowly or even stop in order to give riders time to find a gateway or lay by where they can take refuge and create sufficient space between the horse and the vehicle. Because of the position of their eyes, horses are very aware of things coming up behind them; and
- all drivers delivering to the Site must be patient. Riders will be doing their best to reassure their horses while often feeling a high degree of anxiety themselves.

Residual Construction Effects

11.8.53 The identification of residual construction effects considers the assessment of traffic effects following the incorporation of the identified mitigation measures above. An evaluation of the potential effects of the temporary increase in traffic on the study area roads used for the construction traffic has been undertaken, with the results provided below:

- B738 Users – Not Significant;
- Residents on the B738 – Not Significant;
- A77 Users at Craigenquarroch (including approach to Portpatrick) – Not Significant;
- Residents on the A77 at Craigenquarroch – Not Significant; and
- Core Path / Path Users within the Site – Not Significant.

11.8.54 A summary of the assessment of residual effects, including the proposed mitigation measures is presented in **Table 11.14**.

11.8.55 The assessment confirms the temporary construction stage effects will be minor in nature and they will be not significant, following the implementation of a comprehensive CTMP, together with onsite route signage and an OAMP, which will incorporate any required temporary re-routing of Core Paths or temporary barriers to protect users from construction activities. The traffic effects are transitory in nature and appropriate mitigation measures are proposed to reduce the potential impacts. No long-term detrimental transport or access issues are associated with the construction phase of the Proposed Development.

11.9 Interrelationship Between Effects

11.9.1 The IEMA guidelines also refer to interrelationships with traffic and transport effects in relation to amenity including visual effects, noise and hazardous loads. Visual effects and noise are addressed in **Chapter 5: Landscape and Visual Impact Assessment** and **Chapter 10: Noise and Vibration**.

11.10 Further Survey Requirements and Monitoring

11.10.1 Site entrance roads will be maintained and monitored during the construction phase and operational life of the Proposed Development. With regards to the construction phase, this will be done as part of the CTMP and will involve monitoring the Site access junction and public road network in the vicinity of the Site to ensure mud and debris from construction activities are not tracked on to the road network. Furthermore, monitoring of the public road network will be undertaken as part of the road conditions surveys, that will likely be required as part of the planning conditions attached to the consent.

11.10.2 During the operational life of the Proposed Development, regular maintenance will be undertaken to keep the Site access track drainage systems fully operational and to ensure there are no run-off issues onto the public road network.

11.11 Summary of Likely Significant Effects

11.11.1 **Table 11.13** below summarises the predicted effects of the Proposed Development on Access, Traffic and Transport prior to mitigation.

Table 11.13 Summary of Significant Effects

Predicted Effects	Significance	Committed Additional Mitigation	Significance of Residual Effect
Construction			
B738 Users and Residents			
Severance	Major (**Significant**)	CTMP – will be secured through a planning condition and delivered by the Contractor. Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier. Staff Travel Plan – will be delivered by the Principal Contractor.	Minor (Not significant)
Fear & Intimidation	Major (**Significant**)	CTMP – will be secured through a planning condition and delivered by the Contractor. Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier. Staff Travel Plan – will be delivered by the Principal Contractor.	Minor (Not significant)
Large Loads	Major (**Significant**)	Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier.	Minor (Not significant)
A77 Users and Residents at Craigenquarroch (including approach to Portpatrick)			
Severance	Moderate (**Significant**)	CTMP – will be secured through a planning condition and delivered by the Contractor. Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier. Staff Travel Plan – will be delivered by the Principal Contractor.	Minor (Not significant)
Fear & Intimidation	Moderate (**Significant**)	CTMP – will be secured through a planning condition and delivered by the Contractor. Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier. Staff Travel Plan – will be delivered by the Principal Contractor.	Minor (Not significant)
Large Loads	Moderate (**Significant**)	Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier.	Minor (Not significant)
Core Path / Path Users within the Site and study area			
Severance	Major (**Significant**)	CTMP – will be secured through a planning condition and delivered by the Contractor.	Minor (Not significant)

Predicted Effects	Significance	Committed Additional Mitigation	Significance of Residual Effect
		Provision of an Outdoor Access Management Plan if required.	
Pedestrian Delay	Major (**Significant**)	CTMP – will be secured through a planning condition and delivered by the Contractor. Provision of an Outdoor Access Management Plan if required.	Minor (Not significant)
Non-motorised User Amenity	Major (**Significant**)	CTMP – will be secured through a planning condition and delivered by the Contractor. Provision of an Outdoor Access Management Plan if required.	Minor (Not significant)
Fear & Intimidation	Major (**Significant**)	CTMP – will be secured through a planning condition and delivered by the Contractor. Provision of an Outdoor Access Management Plan if required.	Minor (Not significant)
Road Safety	Major (**Significant**)	CTMP – will be secured through a planning condition and delivered by the Contractor. Provision of an Outdoor Access Management Plan if required.	Minor (Not significant)
Large Loads	Major (**Significant**)	Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier.	Minor (Not significant)

Glossary/Abbreviations

Table 11.14 Glossary

Term in Full	Abbreviation	Meaning
Automatic Traffic Count	ATC	Data used to support transport planning and design.
Balance of Plant	BoP	Infrastructural components of a wind farm, except the turbine and its elements.
Construction Environmental Management Plan	CEMP	A project's document which outlines measures to achieve compliance with the environmental protection and mitigation requirements.
Construction Traffic Management Plan	CTMP	Document which outlines traffic management measures to mitigate adverse impacts associated with construction related traffic.
Department for Transport	DfT	Department for Transport
Dumfries and Galloway Council	DGC	Local Authority
Design Manual for Roads and Bridges	DMRB	Design Manual for Roads and Bridges
Environmental Impact Assessment Report	EIAR	A document detailing the effects a project would have on the environment.
Electronic Service Delivery for Abnormal Loads	ESDAL	System that provides information on who to notify regarding a route to transport abnormal loads.
Heavy Goods Vehicle	HGV	All goods vehicles > 3.5 tonnes gross maximum weight.
The Institute of Environmental Management and Assessment	IEMA	The Institute of Environmental Management and Assessment
Light goods vehicles	Lights or LGV	All commercial vehicles < 3.5 tonnes gross maximum weight
National Cycle Network	NCN	Designated National Cycle Network Routes within the UK.
National Road Traffic Forecast	NRTF	Factors used to apply future year growth to traffic flows.
Ordnance Survey	OS	Great Britain's national mapping agency.
Outdoor Access Management Plan	OAMP	Plan outlining measures for path users following outcomes from the Path Planning Study.
Port of Entry	POE	Port from which AILs are to be delivered.
Route Survey Report	RSR	Report assessing the suitability of a route to transport abnormal loads.
Trunk Road	T	Strategic road
Travel Plan Coordinator	TPC	Personal responsible for updating, promoting and implementing the Travel Plan
Transport Scotland	TS	Transport Scotland